



UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/172,298 10/14/98 RHODES

H M4065.101/P1

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MM42/0214

EXAMINER

MUNSON, G

ART UNIT

PAPER NUMBER

2811

DATE MAILED:

02/14/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

173,298

Applicant(s)

H. RHODES

Examiner

G. MUNSON

Group Art Unit

2811

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

P r i d f r Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE THREE MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- ☒ Responsive to communication(s) filed on 1 DECEMBER 1999
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 111; 453 O.G. 213.

Disp sition of Claims

- ☒ Claim(s) 1-70 is/are pending in the application.
- Of the above claim(s) 62-70 is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1-66 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Pri rity under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
 - ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.
 - ☐ received in Application No. (Series Code/Serial Number) _____
 - ☐ received in this national stage application from the International Bureau (PCT Rule 1.7.2(a)).

*Certified copies not received: _____

Attachm nt(s)

- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 2 ☐ Interview Summary, PTO-413
- ☒ Notice of Reference(s) Cited, PTO-892 ☐ Notice of Informal Patent Application, PTO-152
- ☒ Notice of Draftsperson's Patent Drawing Review, PTO-948 ☐ Other _____

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Figures 1-3 need to be labeled "PRIOR ART".

Claims 67-70 are withdrawn from consideration as being for non-elected species the election having been made *without* traverse in the response, paper No. 4, filed 1 December 1999.

Claim 66 is rejected under 35 U.S.C. 112, first paragraph. The "processor" (claim 53) for particular use in a "camera" system is unclear from the specification (page 19).

Claims 14-52 and 64 are rejected under 35 U.S.C. 112, second paragraph. In claim 14, "said node" has no antecedent. In claim 28, the relationship of the "photogate" and "charge collection area" to an "active pixel sensor" is unclear. Claim 39 appears identical to claim 28; it is suggested that claim 39 and identical dependent claims be canceled, and nonidentical dependent claims made dependent upon claim 28. Claim 64 is identical to claim 59 and should be canceled.

The process terminology (claims 5, 6, 16, 17, 24, etc) is considered only in terms of a necessary resultant structure from the process. The process itself is not at issue. The device claims are not limited to the recited process. See MPEP 2113; *In re Brown*, 173 USPQ 685 (CCPA 1972); *In re Fitzgerald*, 205 USPQ 594 (CCPA 1980); *In re Marosi*, 218 USPQ 289, 292, 293 (CCPA 1983); *In re Thorpe*, 227 USPQ 964 (CAFC 1985).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 1-3, 5-7, 12, 15-19, 24-26, 28-33, 38-44, 46, 51, 53-55, 57-59 and 64-66 are rejected under 35 U.S.C. 103 as unpatentable over the acknowledged prior art in this application (Figures 1, 2, pages 1-12) and Nagasaki et al, considered together. For an imaging device as in the acknowledged prior art (Figures 1, 2), it would have been obvious to use a photogate insulator with higher dielectric constant, as suggested by Nagasaki et al (figure 17; columns 2-3), in order to increase the capacity of the photogate.

Claims 4, 27, 45 and 56 are rejected under 35 U.S.C. 103 as unpatentable the evidence being the acknowledged prior art in this application (figures 1, 2, pages 1-12) and Nakasaki et al, applied as in the above rejection, further considered together with Koike et al. The claimed materials are conventional to use as transparent or semi-transparent materials, as applicant would agree and as shown by Koike et al (column 3), which would have been obvious to use to achieve a transparent or semi-transparent photogate electrode.

Claims 8, 10, 11, 20, 22, 23, 34, 36, 37, 47, 49, 50, 60, 62 and 63 are rejected under 35 U.S.C. 103 as unpatentable the evidence being the acknowledged prior art in this application (figures 1, 2, pages 1-12) and Nakasaki et al, applied as in the above rejection, further considered together with Suzuki. The claimed materials (NO or ON), used by Suzuki (column 4), are well known to have a higher dielectric constant than silicon oxide, as applicant would agree (37 CFR1.56, MPEP 2144.03), which would have been obvious to use for a photogate insulator in order to achieve a higher capacity for the photogate.

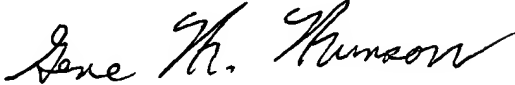
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Claims 8, 9, 13, 20, 21, 34, 35, 47, 48, 52, 60 and 61 are rejected under 35 U.S.C. 103 as unpatentable, the evidence being the acknowledged prior art in this application (Figures 1, 2, pages 1-12) and Nakasaki et al, applied as in the above rejection, further considered together with Okada et al. The claimed material (ONO), used by Okada et al, is well known to have a higher dielectric constant than silicon oxide, as applicant would agree (37 CFR 1.56, MPEP 2144.03), which would have been obvious to use for a photogate insulator in order to achieve a higher capacity for the photogate.

Shin et al is cited of interest in showing use of NO in an image sensor.

No claim is allowed.

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02/05/00


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EXAMINER
GROUP ART UNIT 2811